

## CLAIMS

1. An optical fiber for irradiation-light transfer for exiting from an exit terminal thereof irradiation light incident from an incidence terminal thereof, comprising:

an annular portion formed by bending an intermediate region thereof in an annular shape; and

a fixing member for fixing a crossing zone of the annular portion.

2. An optical fiber for irradiation-light transfer for exiting from an exit terminal thereof irradiation light incident from an incidence terminal thereof, comprising:

a partial annular portion formed by partially bending an intermediate region thereof in an annular shape; and

a fixing member for fixing a crossing zone of the partial annular portion.

3. An optical fiber for irradiation-light transfer for exiting from an exit terminal thereof irradiation light incident from an incidence terminal thereof, comprising:

partial annular portions formed continuously or intermittently by partially bending an intermediate region thereof in an annular shape.

4. An optical fiber for irradiation-light transfer for exiting from an exit terminal thereof irradiation light incident from an incidence terminal thereof, comprising:

an intermediate region thereof is formed in a three-dimensional shape.

5. The optical fiber for irradiation-light according to claim 4, wherein

the intermediate region is formed in a spiral shape.

6. The optical fiber for irradiation-light according to any one of claims 1 to 5, wherein

the irradiation light from a plurality of power sources is incident from the incidence terminal.

7. The optical fiber for irradiation-light according to any one of claims 1 to 6, comprising:

a single large diameter optical fiber element.

8. The optical fiber for irradiation-light transfer according to claim 7, wherein

a bundle optical fiber which includes a plurality of optical fiber elements is coupled with the incidence terminal.

9. The optical fiber for irradiation-light transfer according to any one of claims 1 to 8, wherein

the radius of curvature at the annular portion is adjustable.

10. The optical fiber for irradiation-light transfer according to any one of claims 1 to 9, wherein

the radius of curvature at the annular portion is fifty or more times as large as the diameter of the fiber.

11. The optical fiber for irradiation-light transfer according to any one of claims 1 to 10, wherein

the radius of curvature at the annular portion is 75 mm or less.

12. The optical fiber for irradiation-light transfer according to claim 1, wherein

twice or more wound is formed at the annular portion.

13. A light irradiation device comprising:

a light source;

an optical fiber for transferring irradiation light from the light source; and

the optical fiber for irradiation-light transfer according to any one of claims 1 to 12.

14. The light irradiation device according to claim 13 provided inside a case.

15. The light irradiation device according to claim 13 provided outside a case.